The Wide-Field Imaging Interferometry Testbed: Characterization and Calibration

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We discuss the procedure used to characterize the Wide-Field Imaging Interferometry Testbed (WIIT) components and system, including spectral transmission, throughput, wavefront quality, mechanical and thermal stability, and susceptibility to turbulence. The sources of uncertainty and visibility loss are identified and evaluated, and we briefly discuss measures taken to mitigate these effects. We further discuss calibration techniques which can be used to compensate for visibility loss factors, and describe the applicability of these calibration techniques to the future space-based far-IR interferometry missions SPIRIT (Space Infrared Interferometric Telescope) and SPECS (Submillimeter Probe of the Evolution of Cosmic Structure).